Maximus V Formula/ThunderFX Marketing Spec

CPU	LGA1155 socket for Intel® 3rd/2nd Generation Core™ i7/ i5/ i3/ Pentium® / Celeron® Processors
	Supports 22/32nm CPU
	Support Intel® Turbo Boost Technology 2.0
	* The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.
	** Refer to www.asus.com for Intel CPU support list
Chipset	Intel® Z77 Express Chipset
Memory	Dual channel memory architecture
	4 x DIMM, max. 32GB, DDR3 2800(O.C.)/2666(O.C.)/2600(O.C.)/2400(O.C.)/2200(O.C.)/2133(O.C.)/1866(O.C.)/1600/1333/1066 MHz, non-ECC, un-buffered memory
	Supports Intel® Extreme Memory Profile (XMP)
	* Hyper DIMM support is subject to the physical characteristics of individual CPUs.
	** Please refer to Memory QVL (Qualified Vendors List) for details.
Expansion Slots	3 x PCI Express 3.0/2.0 x16 slots, (single at x16, dual at x8/x8, 3-way CFX at x8/x4/x4 native from CPU)
	1 x PCI Express 2.0 x4 slot
	3 x PCI Express 2.0 x1 slots
	1 x mini-PCI Express 2.0 x1 slot*** on mPCIe Combo™ expansion card
	* PCIe 3.0 speed is supported by Intel® 3rd generation Ivy Bridge Core™ Processors.
	** x8/x4/x4 mode is supported by Intel® 3rd generation Ivy Bridge Core™ Processors.
	*** The mini-PCIe slot is pre-installed with an Wi-Fi/Bluetooth module.
VGA	**Integrated Intel® HD Graphics Processor**
	- Multi-VGA output support: DisplayPort/HDMI port
	Supports DisplayPort 1.1a with max. resolution 2560 x 1600@60Hz
	Supports HDMI with max. resolution 1920 x 1200@60Hz
	Supports Intel® InTru™ 3D/Quick Sync Video/Clear Video HD Technology/Insider™
Multi-GPU Technology	Supports NVIDIA SLI™ / AMD CrossFireX™ Technology
	Supports AMD 3-WAY CrossFireX™ Technology
	Supports LucidLogix Virtu MVP Technology*
	* LucidLogix Virtu MVP supports Windows 7 operating systems.
Storage	**Intel® Z77 Express Chipset:**
	- 2 x SATA 6.0 Gb/s ports [red]
	- 2 x SATA 3.0 Gb/s ports [black]
	- 1 x eSATA 3.0 Gb/s port
	- 1 x mSATA 3Gb/s slot on mPCIe Combo™ expansion card
	Intel® Rapid Storage Technology supports RAID 0, 1, 5 and 10
	Supports Intel® Smart Response Technology, Intel® Rapid Start Technology, Intel® Smart Connect
	ASMedia® SATA 6Gb/s controller:
	- 4 x SATA 6.0 Gb/s ports [red]**
	* Supports on Intel® Core™ processor family with Windows® 7 operating systems.
	** These SATA ports are for data hard drives only.
LAN	Intel® Gigabit LAN Controller x 1
Wireless Data Network	Wi-Fi 802.11 a/b/g/n supports dual frequency band 2.4/5 GHz
	* The module is pre-installed on mPCIe Combo™ expansion card
Bluetooth	Bluetooth v4.0/3.0+HS
	* The module is pre-installed on mPCIe Combo™ expansion card
ROG SupremeFX HD Audio	**SupremeFX IV, built-in 7.1-Channel High Definition Audio CODEC**
	- High fidelity headphone amplifier: Texas Instruments (120dB SNR, -117dB THD+N @ Vcc+-12V,
	- SupremeFX Shielding™ Technology
	- ELNA® Premium Audio Capacitors
	- 1500 uF Audio Power Capacitor
	- Output Signal-to-Noise Ratio (A-Weighted): 110 dB
	- Output THD+N at 1kHz: 95 dB
	- Supports jack-detection, multi-streaming, front panel jack-retasking
	- Blu-ray audio layer Content Protection
	- Optical S/PDIF input and output ports at back panel
	Audio Features:
	- DTS Ultra PC II
	- DTS Connect
ThunderFX	Output Signal-to-Noise Ratio (A-Weighted): 114dB
	C-Media 6631 audio processor (Max. 192kHz/ 24bit)
	Digital-to-Analog Converter: 120dB SNR, 107dB THD+N (Max. 192kHz/ 24-bit)
	Built-in high fidelity headphone amplifier
	Multi-platform Support: PC, Xbox 360, PS3
	Built-in ENC (Environmental Noise Cancellation) Technology
	Up to 300 ohms headphone impedance support
	~~GameEQ: 3 preset EQ profiles with graphical audio effect tuning hints~~
	Separate volume control for voice communication (PS3, Xbox 360) Analog signal in supported by 3.5mm to RCA cable
	Xear™ Surround Headphone
	Xear™ SingFX
	FlexBass™, Smart Volume Normalize™
	DS3D GX 1.0, OpenAL
	191 x 121 x 36mm (LxWxH)
	2x RCA audio input
	1x USB 2.0 connector
	1x 3.5mm headphone jack
	1x 3.5mm microphone jack
	1x 2.5mm microphone jack for Xbox 360 voice input
USB	**Intel® Z77 Chipset:**
	- 4 x USB 3.0 ports; 2 ports at back panel [blue], 2 ports at midboard [red]*
	- 8 x USB 2.0 ports; 3 ports at back panel ,1 reserved for ROG Connect, 4 ports at midboard
	ASMedia® USB 3.0 controller:
	- 2 x USB 3.0 ports at back panel [blue]
	*UASP standard on the Intel native USB 3.0 is only supported under Windows® 8.
	mPCIe Combo™(mPCIe/mSATA combo card)

ROG Exclusive Features	**ROG Extreme Engine Digi+ II**
	- 8 phase CPU power
	- 4 phase iGPU power
	- 2 phase DRAM power
	ROG Connect
	- RC Poster
	- RC Remote
	- RC Diagram
	- GPU TweakIt
	ROG Extreme OC kit
	- LN2 Mode
	- Slow Mode
	- EZ Plug
	UEFI BIOS features:
	- GPU.DIMM Post
	- ROG BIOS Print
	CPU Level Up
	GameFirst II
	ProbeIt
	iROG
	Extreme Tweaker
	USB BIOS Flashback
	Loadline Calibration
	ROG O.C. Profile
Special Features	**ASUS EPU Engine**
	ASUS Wi-Fi GO!
	ASUS Exclusive Features
	- AI Suite II
	- TurboV EVO
	- USB 3.0 Boost
	- Fan Xpert 2
	- AI Charger+
	- USB Charger+
	- Disk Unlocker
	ASUS EZ DIY
	- ASUS CrashFree BIOS 3
	- ASUS EZ Flash 2
	- ASUS C.P.R.(CPU Parameter Recall)
	ASUS Q-Design
	- ASUS Q-code
	- ASUS Q-Shield
	- ASUS Q-Connector
	- ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED)
	- ASUS Q-Slot
	- ASUS Q-DIMM
Back Panel I/O Ports	1 x Clr CMOS button
	1 x ROG Connect On/Off button
	4 x USB 2.0 ports (1 port also for ROG Connect)
	4 x USB 3.0 ports [blue]
	1 x eSATA 3.0 Gb/s connector
	1 x Optical S/PDIF out
	1 x DisplayPort
	1 x HDMI port
	1 x LAN (RJ45) port
	5 x Audio jacks
	1 x Optical S/PDIF in
Internal connectors	1 x USB 3.0 connectors supports additional 2 USB 3.0 ports
	2 x USB 2.0 connectors support additional 4 USB 2.0 ports
	6 x SATA 6Gb/s connectors
	2 x SATA 3Gb/s connectors
	8 x 4-pin Fan connectors: 2 x CPU / 3 x Chassis / 3 x Optional
	3 x Thermal sensor connectors
	8 x ProbeIt Measurement points
	1 x mPCIeCombo header
	1 x SPDIF_Out header
	1 x 24-pin EATX Power connector
	1 x 8-pin EATX 12V Power connector
	1 x 4-pin EATX 12V Power connector
	1 x EZ Plug connector
	1 x LN2 Mode header
	1 x Slow Mode switch
	1 x START (Power On) button
	1 x RESET button
	1 x Go button
	1 x Audio front panel (AAFP)
	1 x System panel connector
BIOS Features	64Mb UEFI AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.5, ACPI2.0a Multi-Language BIOS
Manageability	WfM2.0, DMI2.0, WOL by PME, PXE
Accessories	User's manual
	I/O Shield
	1 x mPCIe Combo card with dual band WiFi 802.11 a/b/g/n module + Bluetooth v4.0/3.0+HS module
	1 x 2-in-1 RF Cables
	2 x dual band WiFi Ring Moving Antenna
	1 x SLI bridge
	1 x 2-in-I SATA 3Gb/s signal cables
	2 x 2-in 1 SATA 6Gb/s signal cables
	1 x ROG Connect cable
	1 x 2-in-1 ASUS Q-Connector Kit
	1 x 12-in-1 ROG cable label
	1 x Diablo III Mousepad

	1 x ROG Logo Sticker
	1 x 2.5mm Xbox 360 voice input cable
	1 x dual-head USB cable
	1 x ThunderFX Xbox 360 AV + 3.5 mm to RCA cable
Software	Drivers
	Kaspersky® Anti-Virus
	DAEMON Tools Pro Standard
	GameFirst II
	ROG CPU-Z
	Mem TweakIt
	ASUS AI Suite II
	ASUS WebStorage
	ASUS Utilities
Form Factor	extended ATX Form Factor, 12”x 10.1” (30.5cm x 25.7cm)